

## Internal Letter



Rockwell International

Date · April 9, 1987

No. · DL-GLPIII-46

TO (Name, Organization, Internal Address)

· G. W. Campbell  
· HS&E  
· Building 111

FROM (Name, Organization, Internal Address, Phone)

· G. L. Potter  
· HS&E Ops. Mgmt.  
· Building 123  
· 4098



000024527

SUBJECT · FLUIDIZED BED INCINERATOR (FBI) FILES REVIEWED

R. J. Crocker, EA&C, in cooperation with Don Ziegler (Waste Ops.) reviewed historical files and pieced together verbal remembrances of pre-1981 FBI operations. Attached for you information are their comments.

G. L. Potter *D.L.*  
HS&E Operations Management

Enc. (1)

cc:

R. J. Crocker

D. L. Ziegler

ADMIN RECORD

IA- B776-A-00027

ELDC. 776 BACKGROUND REVIEW  
FLUID BED INCINERATOR (FBI)  
R. J. CROCKER

In an informal meeting with Don Ziegler, manager of the fluid bed incinerator, on 3/20/87, background information on the FBI was discussed and I received Don's files. Of main interest was the status of the incinerator in relation to CDH air permitting requirements.

The Fluidized Bed Incineration facilities consist of two incinerators located in Building 776. The incinerators differ only in scale. The smaller pilot-scale unit (20 lb/hr) was used as a design basis for the larger demonstration-scale unit (180 lb/hr). Both of these units exhaust through the same final four-stage HEPA filter plenum and thus share a common atmospheric emission point. Utility availability precludes simultaneous operation of both units so emissions from the two units are never cumulative. The process information tables supplied with the original Air Pollution Emission Notice (APEN), sent to CDH on August 12, 1980, were based on the 180 lb/hr development-scale (demo) unit.

There were seven "test burns" conducted prior to the 1981 PCB Test Burn, all were in the demo-scale unit:

- 1.) 11/6 - 11/8/78 Total burn time, 25 hrs. with 2677 lbs. of solid non contaminated office-type waste.
- 2.) 4/22 - 4/24/79 Total burn time, 27 hrs. with 4706 lbs. of solid noncontaminated office waste.
- 3.) 6/10 - 6/15/79 Total burn time, 100 hrs. of solid waste, including Pu-contaminated waste (<10 nCi/g). Total waste burned, 14,559 lbs.; contaminated waste burned 1411 lbs.
- 4.) 8/12 - 8/17/79 Total burn time, 54 hrs. Second run which burned contaminated solid wastes (<10 nCi/g); 7011 lbs. of material burned. No distinction made between what solids were contaminated. Decision made to switch from blowers to an air injection system.
- 5.) 8/24 - 8/29/80 Total burn time, 95 hrs. with 5132 lbs. of solid contaminated wastes, and 8768 lbs. of non-contaminated solid wastes. Successful evaluation of the new air jet ejector system that replaces last years four Sunflo centrifugal blowers as the primary motive force for the system.
- 6.) 10/2 - 10/3/80 First run using liquids. Total burn time 10.5 hrs. 701 lbs. at 96 gallons, including suspected contaminated paint thinner from a hot area (probably Pu). Records of feed composition are sketchy.

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7.) 3/2-3/6/81

Total burn time 96 hrs., liquids equaling 5550 lbs. at 772 gallons. Feed materials were the same as in Test #6. Sealed 55-gallon drums of liquids were used, exact contents not indicated.

FBI first permitted July 14, 1978 (#C-11,973), this was an Initial Permit issued by CDH, and covered the demo unit only. The permit lists the activity as "Fluidized Bed Reactor for incineration of Low Specific Activity Waste with sintered Metal Filters and HEPA Filters." Emission limits were "Opacity shall not exceed 20%. Particulate emissions shall not exceed 0.1 grains per standard cubic foot." A Final permit under this number was never obtained; probably because the incinerator construction was not considered complete. The FBI was 'owned' by Pilot Plant Development, and classified as an R&D project. On April 7, 1980, in a letter to CDH, a request was made to add the pilot unit onto the existing permit (initial) for the Demo unit. CDH responded that this required submittal of a new APEN and issuing of a new Permit. Initial Permitt # C-13,022 was issued February 13, 1981 (included both pilot and demo units) and superseded C-11,973. Although an Initial Permit does not constitute final authority to operate, all the above test runs were considered part of the incinerator construction phase, the unit was not considered "in production" from Rocky Flats point of view. An official letter from DOE on January 30, 1981 serving as a Notice of Startup (demo unit) listing the run of March 2, 1981 as an operational run for personnel training purposes. No approval or denial for this run could be found in the files. But the train of thought seemed to be that this was a dry run for the upcoming PCB Test Burn, that been requested by EPA. CDH conducted an on-site inspection of both incinerators on May 12, 1981. Incinerator personnel were told that the time clock for the expiration (six months) of the Initial Permit would not start until after the inspection. The PCB Test Burn seemed to serve the dual purpose of proving the technology to EPA and serving as a design verification test for CDH permitting personnel. The PCB test burn was conducted May 19, 1981 (in the pilot scale unit).

Although there was some apparent misunderstanding during these early periods about Air Permits, especially concerning the difference between an Initial and Final Permit, the files show fairly consistent communication with CDH. This included a meeting at Rocky Flats with John Clouse, Gary McCutcheon, and John Plog of CDH on July 16, 1980 to talk about the FBI permit application and the proposed PCB Test Burn.

In retrospect, the questions about the early test burns in the FBI seem to hinge on the definition of "operation", when was this incinerator considered operational? Also, during that time period, there seems to be a line of thinking that CDH had no authority over DCD operations, permitting and controlling the emissions to the atmosphere, yes, but actual operations, no.